

WHAT IS CLAIMED IS:

1 1. An apparatus for implementing special mode playback
2 operations in a digital video recorder, the apparatus comprising:

3 an Intra frame indexing device capable of receiving an
4 incoming MPEG video stream and identifying therein data packets
5 associated with Intra frames, wherein said Intra frame indexing
6 device modifies header information in a first data packet
7 associated with a first Intra frame to include location information
8 identifying a storage address of a second data packet associated
9 with a second Intra frame.

1 2. The apparatus as set forth in Claim 1 wherein said second
2 Intra frame chronologically precedes said first Intra frame.

1 3. The apparatus as set forth in Claim 1 wherein said second
2 Intra frame chronologically follows said first Intra frame.

1 4. The apparatus as set forth in Claim 1 wherein said
2 location information comprises sequence information identifying a
3 location of a video frame sequence containing said second Intra
4 frame.

1 5. The apparatus as set forth in Claim 4 wherein said video
2 frame sequence containing said second Intra frame chronologically
3 precedes a video frame sequence containing said first Intra frame.

1 6. The apparatus as set forth in Claim 5 wherein said video
2 frame sequence containing said second Intra frame chronologically
3 follows a video frame sequence containing said first Intra frame.

1 7. A digital video recorder capable of playing back a
2 recorded television program, said digital video recorder
3 comprising:

4 a video processor capable of receiving an incoming
5 television program and converting said incoming television program
6 to a baseband video signal capable of being displayed on a
7 television set coupled to said digital video recorder;

8 a storage disk capable of storing said incoming
9 television program; and

10 an apparatus for implementing special mode playback
11 operations, the apparatus comprising an Intra frame indexing device
12 capable of receiving an incoming MPEG video stream and identifying
13 therein data packets associated with Intra frames, wherein said
14 Intra frame indexing device modifies header information in a first
15 data packet associated with a first Intra frame to include location
16 information identifying a storage address on said storage disk of
17 a second data packet associated with a second Intra frame.

1 8. The digital video recorder as set forth in Claim 7
2 wherein said second Intra frame chronologically precedes said first
3 Intra frame.

1 9. The digital video recorder as set forth in Claim 7
2 wherein said second Intra frame chronologically follows said first
3 Intra frame.

1 10. The digital video recorder as set forth in Claim 7
2 wherein said location information comprises sequence information
3 identifying a location of a video frame sequence containing said
4 second Intra frame.

1 11. The digital video recorder as set forth in Claim 11
2 wherein said video frame sequence containing said second Intra
3 frame chronologically precedes a video frame sequence containing
4 said first Intra frame.

1 12. The digital video recorder as set forth in Claim 11
2 wherein said video frame sequence containing said second Intra
3 frame chronologically follows a video frame sequence containing
4 said first Intra frame.

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1 13. A method of indexing Intra frames in an MPEG video stream
2 to enable special mode playback operations in a digital video
3 recorder, the method comprising the steps of:

4 receiving the MPEG video stream;

5 identifying in the received MPEG video stream data
6 packets associated with Intra frames; and

7 modifying header information in a first data packet
8 associated with a first Intra frame to include location information
9 identifying a storage address of a second data packet associated
10 with a second Intra frame.

1 14. The method as set forth in Claim 13 wherein said second
2 Intra frame chronologically precedes said first Intra frame.

1 15. The method as set forth in Claim 13 wherein said second
2 Intra frame chronologically follows said first Intra frame.

1 16. The method as set forth in Claim 13 wherein said location
2 information comprises sequence information identifying a location
3 of a video frame sequence containing said second Intra frame.

1 17. The method as set forth in Claim 16 wherein said video
2 frame sequence containing said second Intra frame chronologically
3 precedes a video frame sequence containing said first Intra frame.

1 18. The method as set forth in Claim 17 wherein said video
2 frame sequence containing said second Intra frame chronologically
3 follows a video frame sequence containing said first Intra frame.

continued

1 19. An MPEG format signal comprising a plurality of data
2 packets, said plurality of data packets comprising a first data
3 packet associated with a first Intra frame, wherein said first data
4 packet comprises a packet header comprising location information
5 identifying a location in the plurality of data packets of a second
6 data packet associated with a second Intra frame.

1 20. The MPEG format signal as set forth in Claim 19 wherein
2 said second Intra frame chronologically precedes said first Intra
3 frame.

1 21. The MPEG format signal as set forth in Claim 19 wherein
2 said second Intra frame chronologically follows said first Intra
3 frame.

1 22. The MPEG format signal as set forth in Claim 19 wherein
2 said location information comprises sequence information
3 identifying a location of a video frame sequence containing said
4 second Intra frame.

1 23. The MPEG format signal as set forth in Claim 4 wherein
2 said video frame sequence containing said second Intra frame
3 chronologically precedes a video frame sequence containing said
4 first Intra frame.

1 24. The MPEG format signal as set forth in Claim 23 wherein
2 said video frame sequence containing said second Intra frame
3 chronologically follows a video frame sequence containing said
4 first Intra frame.